

REMARKS

This is a full and timely response to the outstanding Office Action mailed December 3, 2008. Claims 1, 2, 4-14, and 21-27 are pending in the application. Claims 1, 2, 9, 10, and 11 are amended herein, and support for these amendments may be found in the Specification at least at p. 4, line 17, as well as in the Examples, beginning at p. 14. Applicant respectfully requests reconsideration and withdrawal of the rejections presented in the Office Action in view of the amendments and following remarks.

Rejections under 35 USC § 102(b)

Claims 1, 4, 5, 8, 9, 14, and 23-27 stand rejected under 35 U.S.C. 102(b) as being anticipated by *Monsanto* (WO 96/113177). Applicant respectfully traverses the rejection.

As amended, independent claim 1, as well as dependent claims 2, 9, 10, and 11, are drawn to

“1. Method for the preparation of a meat substitute product which comprises protein, wherein:
a) a protein material, **alginate** and water are combined,
b) the composition from step a) is formed into a homogenous mixture,
c) the homogeneous mixture from b) is mixed with a solution of a metal cation with a valency of at least 2, in order to form a **fibrous product**,
d) the **fibrous product** is **isolated**,
wherein the protein material comprises a milk protein material, and the homogeneous_mixture of milk protein material, **alginate**, and water is formed in step b) in the presence of an amount of a calcium complex-forming agent.”

Monsanto is concerned with the manufacture of non-melting gellan gum pieces which contain milk solids, and makes no mention of the above-highlighted portions of claim 1. Specifically, *Monsanto* does not mention, for example, alginate or formation or isolation of a fibrous material and thus does not anticipate claim 1 or its dependent claims.

According to MPEP 2131, a claim is anticipated only if each and every element as set forth in the claim is found in a single prior art reference, and the identical invention must be shown in as complete detail as to mirror the claim in question. This burden has not been met and cannot be met, since *Monsanto* fails to speak specifically to alginate. Likewise, this burden has not been met since *Monsanto* fails to speak specifically to formation or isolation of a fibrous product. *Monsanto's* failure to speak to each and every element of independent claim 1 necessarily means there are differences between

the rejected claims and *Monsanto*. These differences are exemplified in at least the portions of *Monsanto* cited by the Office Action in support of the rejection.

At p. 8, the Office Action states that *Monsanto* teaches:

“that the method of preparing an isolated fibrous product comprises: combining water with a gellan gum i.e. a hydrocolloid which precipitates with metal cations, such as sodium alginate, and then adding dairy protein to the mixture, and then adding a mixed solution with a metal cation with a valency of at least 2 to form the isolated product. *Monsanto* teaches that a sequesterant, such as trisodium phosphate can be added to the hydrocolloid mixture so that the protein does not precipitate at elevated temperatures. Refer to page 6 lines 8-35.”

However, at p. 6, lines 8-35 of *Monsanto*, no mention of either alginate or a fibrous product can be found. Likewise, at p. 5, lines 3-5 and 27-34, cited in the Non-Final Office Action, no mention of either alginate or a fibrous product can be found. More particularly, in view of the foregoing, *Monsanto* fails to anticipate steps (a), (c) and (d) of claim 1. Because of these differences, *Monsanto* does not anticipate independent claim 1 or its dependent claims 2, 4-14 and 21-27. Applicant respectfully requests this rejection be withdrawn.

Rejections under 35 USC § 103(a)

A. Claims 21 and 22

Claims 21 and 22 were rejected under 35 USC § 103(a) as being unpatentable over *Monsanto* in view of *Lusas* (US 5,300,312). Applicant respectfully traverses this rejection.

As stated above at pp. 5 and 6, the cited reference of *Monsanto* does not teach, disclose or suggest the combination of elements as claimed in the independent claim 1 of the present application, for example, either alginate or the formation or isolation of a fibrous product of steps (a), (c) and (d) of claim 1.

Furthermore, *Lusas* does not cure these deficiencies. *Lusas*, likewise, makes no mention of either alginate or the formation or isolation of a fibrous product of steps (a), (c) and (d) of claim 1. Since neither *Monsanto* nor *Lusas* alone teaches, discloses or suggests either alginate or the formation or isolation of a fibrous product of steps (a), (c) and (d) of claim 1, their combination certainly cannot render obvious claim 1. Further, since claims 21 and 22 depend on claim 1, the combination of *Monsanto* and *Lusas* cannot render either claims 21 or 22 obvious. Applicant therefore respectfully requests that this rejection be withdrawn.

B. Claims 1, 2, 4-14, and 23-27

Claims 1, 2, 4-14, and 23-27 stand rejected under 35 USC § 103(a) as being unpatentable over *Shenouda* (US 4,423,083) in view of *Monsanto* (WO 96/113177). Applicant respectfully traverses this rejection.

The Office Action acknowledges that, contrary to the rejected claims, *Shenouda* teaches employment of a sequestering agent after the mixture of protein, alginate and water has been gelled by means of infusion with gelatin ions. Conversely, independent claim 1 requires that a homogenous mixture, comprising milk protein material, alginate, and water is prepared in the presence of a calcium complexing agent followed by mixing with a multivalent metal cation solution to produce a fibrous product. In other words, the present method facilitates preparation of a homogeneous mixture prior to precipitation with a multivalent metal cation solution in order to produce a fibrous product. Thus, to achieve the aforementioned objective, Applicant uses a calcium complexing agent and introduces said complexing agent before the addition of a multivalent metal cation solution. In particular this method prevents premature precipitation of the hydrocolloid.

In addition to the aforementioned differences in the rejected claims as compared with *Shenouda*, the Office Action states that *Monsanto* teaches that a sequestrant can be added to a hydrocolloid mixture so that the protein does not precipitate at elevated temperatures. The Office Action also asserts it would have been obvious at the time the invention was made to include a sequestrant with the hydrocolloid or the protein in high temperatures. Applicant respectfully disagrees with this assertion.

While *Shenouda* relates to alginate-based fabricated protein fiber bundles which can be used in meat analogs, *Monsanto* is concerned with providing gellan-based, heat-stable gel pieces which can be added to beverages, retorted snacks, dessert toppings, puddings, and retort stable protein gels. Thus, it is not clear as to what incentive a skilled artisan would have in combining these two references that are directed to different fields and different problems. More importantly, it is unclear why the skilled artisan would have wanted to prevent protein precipitation, as in *Monsanto*, in the fabricated protein fiber bundles of *Shenouda*, especially considering *Shenouda* teaches a process in which heating is required to coagulate the protein. These conflicting teachings between *Shenouda* and *Monsanto* are not reconciled or explained by the Office Action.

Furthermore, *Shenouda* teaches treatment of coagulated protein fiber bundles with an aqueous solution of a sequestering agent to modify the texture and enhance water-retention properties of the final fibers (col. 8, lines 15-37). Applicant asserts that if the treatment with a sequestering agent were to occur prior to heat coagulation, and more particularly, prior to infusion of gelation ions, such treatment will not achieve the desired result, i.e. the desired texture modification and water-retention enhancement.

Accordingly, *Shenouda* and *Monsanto* are not combinable in the manner described by the Office Action. Their combination would be contradictory to the intention of *Shenouda* and would defeat *Shenouda*'s intended result. It would, therefore, not be obvious to a skilled artisan to use *Shenouda* in light of *Monsanto* to incorporate a calcium complex-forming agent in a homogenous mixture of milk protein, alginate, and water prior to admixture of a solution of a metal cation with a valency of at least 2, as recited in claim 1. Thus, Applicant asserts that the order of adding the phosphate according to the present claims is new and provides a homogenous product not disclosed, taught, or suggested by the *Shenouda* or *Monsanto* references. Applicant respectfully requests this rejection be withdrawn.

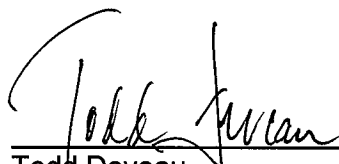
CONCLUSION

In light of the foregoing amendments to the claims and specification and for at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested.

Furthermore, any and all findings of well-known art and official notice, or statements interpreted similarly, should not be considered well known since the Office Action does not include specific factual findings predicated on sound technical and scientific reasoning to support such conclusions.

If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,



Todd Deveau
Reg. No. 29,526

THOMAS, KAYDEN, HORSTEMEYER & RISLEY, L.L.P.
Suite 1500
600 Galleria Parkway N.W.
Atlanta, Georgia 30339
(770) 933-9500